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Is global warming all over?

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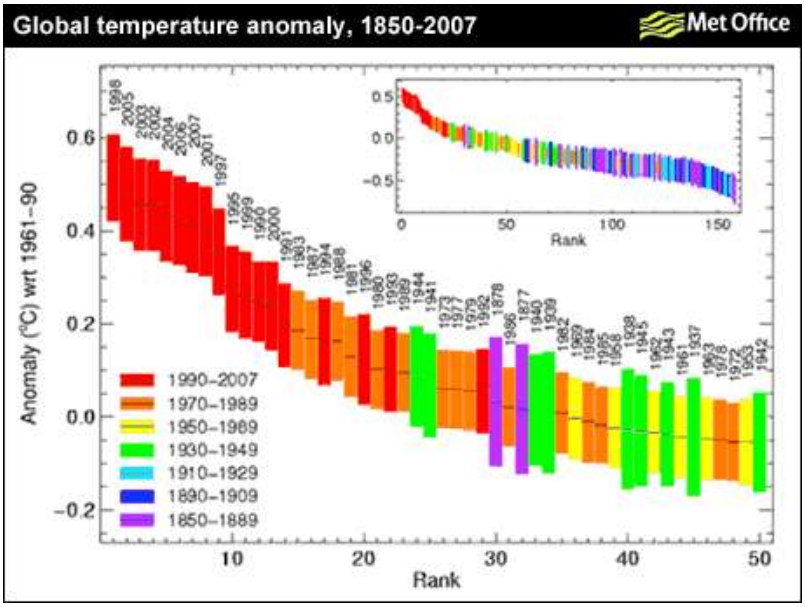
The recent fall in global temperatures has led to increasing speculation that global warming is a thing of the past.

Despite this fall, a look at global average temperatures reveals a different picture. It shows large variability in our climate year-on-year – warmer some years, cooler in others - but what is very clear is an underlying rise over the longer term, almost certainly caused by man-made emissions of greenhouse gases.

There are a number of natural factors contributing to this *interannual variability*, the single most important being the El Niño Southern Oscillation or ENSO.

The global climate is currently being influenced by the cold phase of this oscillation, known as La Niña. The current La Niña began to develop in early 2007, having a significant cooling effect on the global average temperature. Despite this, 2007 was one of the ten warmest years since global records began in 1850 with a temperature some 0.4 °C above average. Indeed, the years 2001-2007 recorded an average of 0.44 °C above the 1961-90 average, which is 0.21 °C warmer than corresponding values for the years 1991-2000

Another way of looking at the warming trend is that 1999 was a similar year to 2007 as far as the cooling effects of La Niña are concerned. The global temperature in 1999 was 0.26 °C above the 1961-90 average, whereas 2007 was 0.37 °C above this average - 0.11 °C warmer than 1999.



However, as La Niña declines, it is very likely that renewed warming will occur, as was the case when the Earth emerged from the strong La Niña events of 1989 and 1999.

Ten-year forecasts produced by the Met Office Hadley Centre capture this levelling of global temperatures in the middle of the decade; effectively La Niña has been masking the underlying trend in rising temperatures. These same forecasts also predict we will experience continued and increased warming into the next decade, with half the years between 2009 and 2014 being warmer than the current warmest on record, 1998.

It is worth remembering that 1998 was the warmest year on record because of an El Niño event amplifying the mean global temperature.

Despite the inherent interannual variability that is observed within our climate, in a series of temperature observations dating back over 150 years, the warmest 10 years have all been since 1995.

In future, we will continue to see global temperatures rise and fall year-on-year. This does not mean that global warming has stopped; only that the continuing rise in temperatures due to man made emissions of greenhouse gases is being temporarily masked.